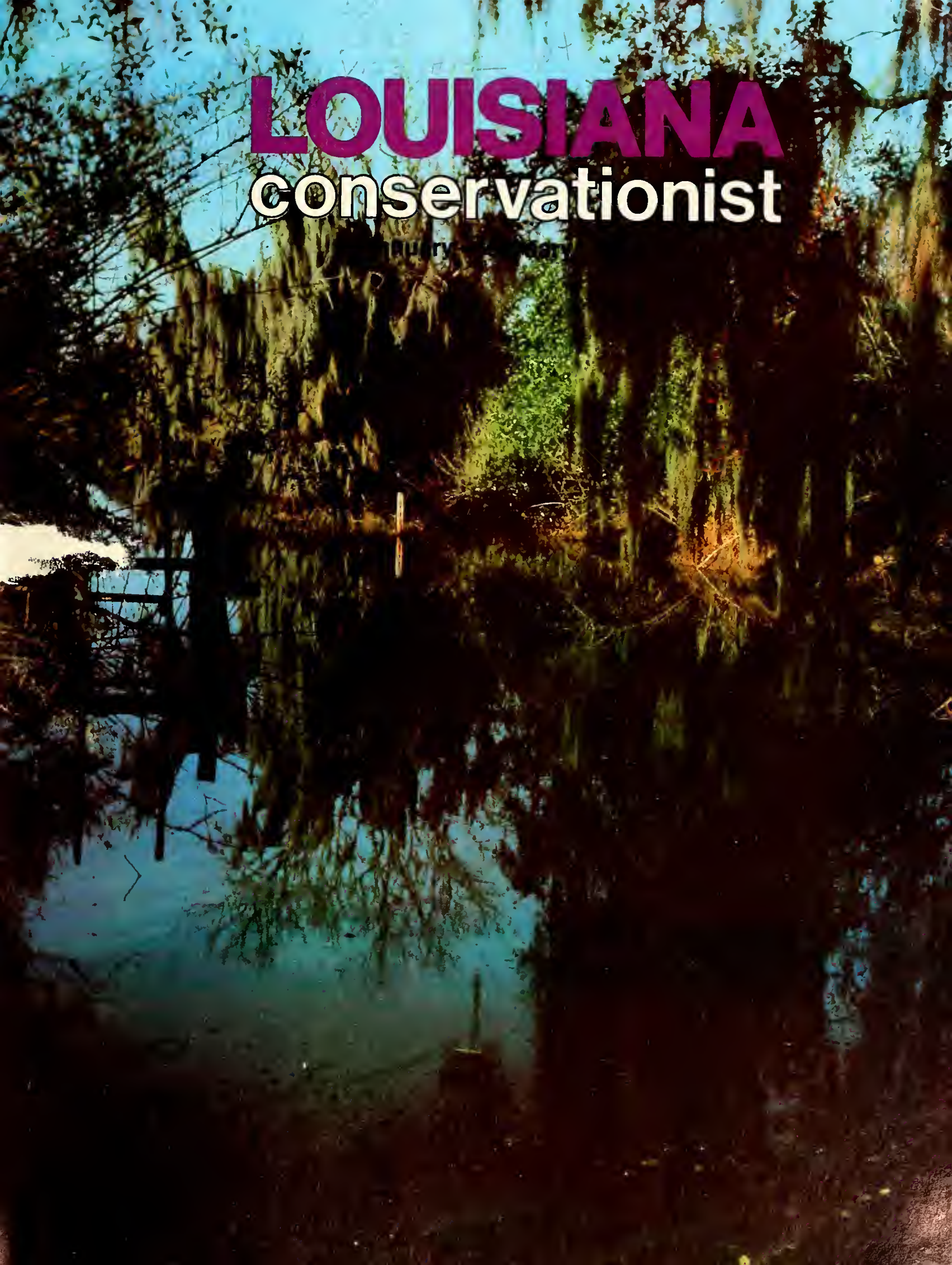
LOUISIANA conservationist

January-February



comments

In this bright little package, now isn't it odd?
You've a dime's worth of something known only to God!
The Package of Seeds
—Edgar Albert Guest

The Louisiana Wild Life and Fisheries Commission is inexorably opposed to blanket aerial spraying of Mirex over Louisiana and eight other southern states, as was begun by the United States Department of Agriculture.

Mirex is a highly persistent chlorinated hydrocarbon pesticide and research has proved that it has a delayed toxicity to marine crustaceans, bird and animal life.

Spraying of Mirex, closely related to DDT, is part of the United States Department of Agriculture's $200 million dollar, 12-year program aimed at eradication of the Argentine fire ant, which entered the country in the early 1900's and subsequently spread throughout the Southeastern United States.

The Department of Agriculture's plan calls for blanket spraying over major portions of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Texas, including woodlands and streams as well as agricultural lands.

In the program, Mirex is placed on ground corn cob grits, along with soybean oil which serves as an attractant. Aerial spraying may assure that granules fall on fire ant hills, but it is equally certain that they will fall over hundreds of thousands of acres where fire ants are not present, including forests, streams and lakes.

Spraying was started in a number of states, including Louisiana, in spite of protests of hundreds of national and state conservation agencies and associations; and against the recommendations of the Department of Interior.

In Louisiana there was blanket spraying of a large part of Caddo Parish and parts of Webster Parish this fall. It was done without notification to the Commission. When I learned of it, a Temporary Stop Order was issued against the aircraft company doing the spraying.

The fire ant is undesirable, but it is not considered an agricultural pest; although it is true that in heavily infested areas the ant mounds do interfere with haying and combining operations. Opponents of the Department of Agriculture's colossal eradication program are not opposed to eradication. They are opposed to the way the Department of Agriculture is going about it—aerial spraying 450 million pounds of Mirex over some 120 million acres.

I was advised in late October by Paul E. Thompson, acting assistant director of research, United States Department of the Interior, Bureau of Sport Fisheries and Wildlife, that the Department of Interior was opposed to the spreading of Mirex-treated bait over large areas in blanket fashion.

He expressed the belief that the program held potential for gross contamination of ecosystems throughout most of the Southeastern United States, and should be held in abeyance until more is known about the threat to ecosystems and to the fish and wildlife resources.

There is positive proof that Mirex has demonstrated a delayed toxic effect on juvenile blue crabs and shrimp. Standard toxicity screening tests did not locate the problem early because the effect is delayed.

United States Department of Interior studies showed young mallard ducks on a diet containing 500 ppm Mirex suffered 78 percent mortality in 10 days and 50 percent mortality in 5 days. A diet of 200 ppm Mirex caused about 20 percent mortality in adult pheasants in 30 days. It is known that Mirex also brings about delayed death in small mammals.

In these days of environmental concern, it seems foolhardy to launch such a massive eradication program with a pesticide about which so little is known. But the program was launched and the United States Department of Agriculture and the Louisiana Department of Agriculture appear determined to continue it in spite of outspoken opposition of the Department of the Interior and countless conservation agencies and groups.

The Louisiana Wild Life and Fisheries Commission and the Louisiana Stream Control Commission will do everything in its power to stop further aerial spraying of Mirex but these Commissions need public support.

Mirex is a pesticide time bomb, fused to explode ecosystems in the Southeastern United States unless emphatic action is taken to bring this program of aerial spraying to an immediate halt. Localized treatment is recommended.

LOUISIANA conservationist

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I give my pledge as an American to
save and faithfully to defend
from waste the natural
resources of my country—its soil
and minerals, its forests, waters
and wildlife.

The Louisiana Conservationist received two awards for excellence from the International Association of Business Communicators District II at the recent annual conference in Athens, Georgia. It was named Best Overall Magazine and Best Nonprofit Organization's Magazine.

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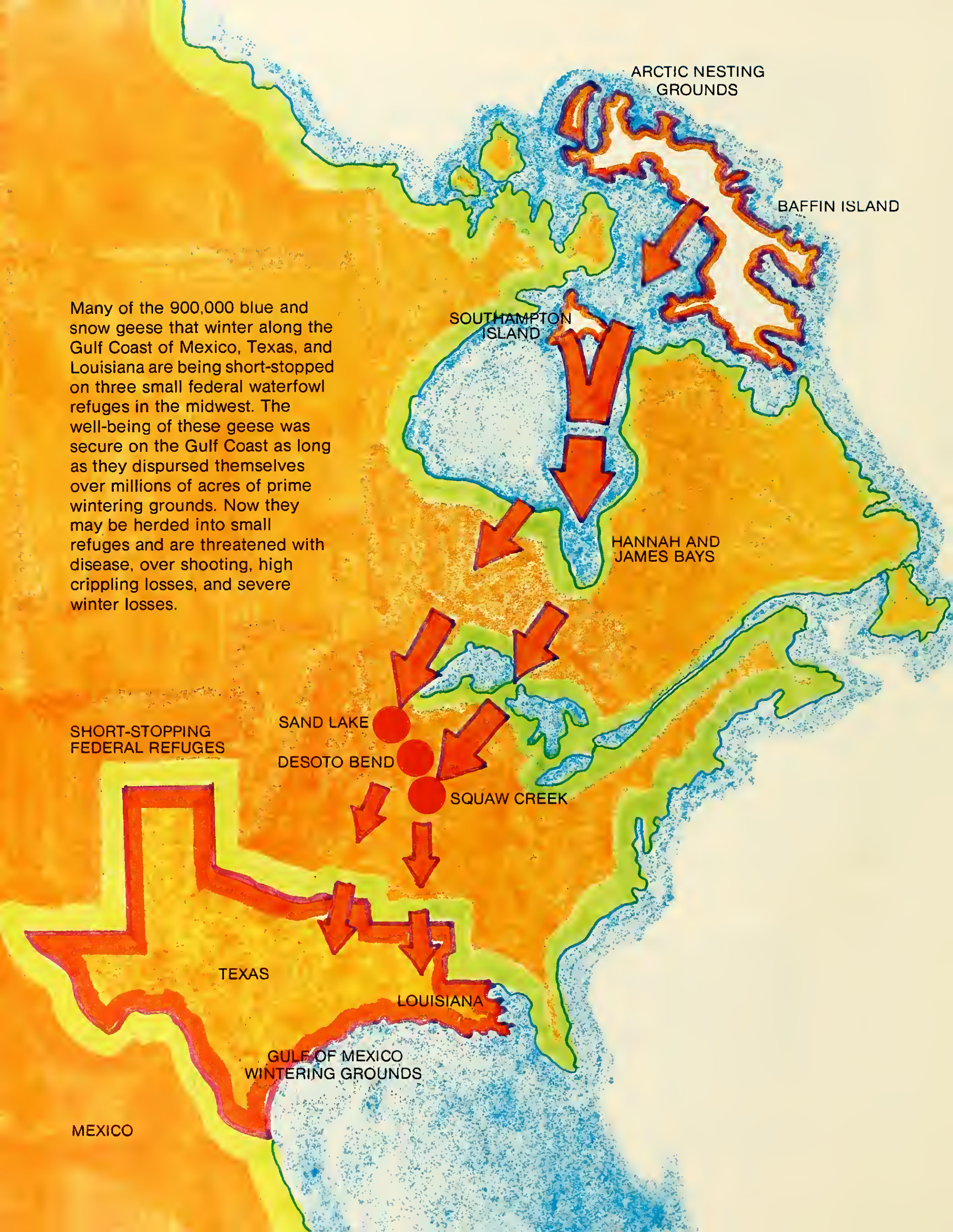
Many of the 900,000 blue and snow geese that winter along the Gulf Coast of Mexico, Texas, and Louisiana are being short-stopped on three small federal waterfowl refuges in the midwest. The well-being of these geese was secure on the Gulf Coast as long as they dispursed themselves over millions of acres of prime wintering grounds. Now they may be herded into small refuges and are threatened with disease, over shooting, high crippling losses, and severe winter losses.



Blue and Snow GEESE short stopping

a gamble destined for disaster on our Federal Refuge System . . .

by Hugh Bateman
Waterfowl Biologist

For years past the spectacular migration of blue and snow geese from their arctic nesting grounds to the Gulf Coast has captured the imagination of man. Their annual precision-like arrival along the vast marshes of the Gulf Coast was a fascinating mystery.

Prior to 1929 little was known about these geese and even the actual location of their nesting grounds was unknown. For untold centuries blue and snow geese have made their traditional fall flight largely non stop from the far north to Louisiana and Texas in late October. The migrational instinct instilled in these birds is an important part of their life habits and helps insure their survival.

We are now urgently concerned about programs now in effect on the federal refuge system that are altering the traditional migration patterns and winter distributions of these geese and even threaten their future well-being.

In order to properly appreciate the frightful reality of developments that may occur in the next decade or so concerning blue and snow geese, that winter along the Gulf Coast, a little discussion of some recent history on Canada geese in necessary.

Until the late 1930's virtually all Canada geese that moved south each fall down the Mississippi Flyway found their way to lush coastal wintering grounds along the Gulf of Mexico. Starting in the early 1940's however, federal waterfowl refuges along the Mississippi Valley in Wisconsin, Illinois and Missouri began short-stopping and holding Canada geese in large numbers. This was accomplished by providing the birds with sanctuary, water and a never ending supply of corn throughout the winter.

During the next 20 years the traditional migration patterns of Canada geese were changed and now their southward migration terminates in Illinois, Wisconsin and Missouri. Now even the most persistent freezes fail to move them on South. Corn is often literally dumped out on the frozen land side to feed these geese. And should crop failures occur on a particular refuge, corn is trucked in to hold them in the area.

As the numbers of geese soared upward on these refugees cor-

Shown below are blue and snow geese on Squaw Creek National Waterfowl Refuge near Mound City, Missouri. This photograph was taken by Hugh Batemen, waterfowl biologist, on December 2, 1970. This is only a small portion of the thousands of blues and snows that were short-stopped on the Federal Refuge.

Above is another view of blue and snow geese short-stopped on Squaw Creek National Waterfowl Refuge. The photograph was made December 2, 1970, during an inspection trip made jointly by Louisiana Wild Life and Fisheries Commission personnel and the Texas Parks and Wildlife Department.

responding and rapid declines in wintering flocks of Canada geese occured in Louisiana. In spite of a closed season in Louisiana for the past nine years, their numbers have continued to decline and during December of 1970 an all time low of less than 1500 Canada geese were found in our state. This small migratory remnant is what remains from over 100,000 that once wintered here.

In spite of efforts to move Canada geese from Northern refuges by various means of harassment they refuse to do so. All instincts to move on to their ancestral wintering grounds have been lost. This situation has created fears that over shooting, disease outbreaks or severe winter losses might occur.

Now we are faced with an identical and rapidly growing program designed to short-stop blue and snow geese. Centers of this activity have been on three federal waterfowl refuges; Sand Lake in South Dakota, Desoto Bend in Iowa and Squaw Creek in Missouri. They have geared their crop, water and overall management program specifically toward attracting and holding increased numbers of blue and snow geese. These carefully devised plans have worked so well that now up to 400,000 blue and snow geese, nearly 1/2 of the entire Gulf Coast flock, have been counted at one time on these three small refuges.

Historical migration records show without any doubt that virtually 100 percent of the Gulf Coast blue and snow goose flock has traditionally arrived in Louisiana by the first week in November. For the past several years over 300,000 blue and snow geese have remained in close association with these three refuges until late December and thirty thousand or more have failed to continue on to the Gulf Coast at all.

The stage has been set and trends are toward encouraging more and more blue and snow geese to winter north of Louisiana and Texas. Make no mistake about this problem, it is very real and some of the possiblities that may result from short-stopping should be pointed out.

First of all, many knowledgeable wildlife professionals will quickly tell you that hoarding huge numbers of wildlife on small land or water areas is courting open disaster in the form of epidemic parasite infestations and/or disease outbreaks. For example, on the Squaw Creek Refuge in Missouri there are only about 1,000 acres of shallow water available to waterfowl for resting and drinking.

During early December of this year and up until late December over 150,000 blue and snow geese, 100,000 ducks and 5 to 6,000 Canada geese (ex-Southerners) were using Squaw Creek Refuge. This water was undoubtedly carrying a huge, filthy waste load from the 1/4 million birds. In fact, a near-by town even voiced concern from a health hazard standpoint.

There has already been one serious outbreak of fowl cholera at Squaw Creek in 1964 when over 1,000 blue and snow geese died in a single night. The total loss of geese from this single incident will never be known, as many birds died in inaccessible areas and were not counted.

Even more serious is the fact that diseases such as fowl cholera often affect the reproductive tract of surviving females. This could have disastrous effects on the reproductive success of a large segment of the entire blue-snow goose flock. As reported during the fowl cholera outbreak at Squaw Creek most epidemic diseases in waterfowl result from over concentrating birds on limited, filthy water areas and subjecting them to physical stress such as severe cold or food shortages. The continued hoarding of huge concentrations of blue and snow geese on small refuges late into the winter would seem to be just asking for similar and perhaps even more severe disease outbreaks.

The popular concept among some federal refuge managers seems to be that the more birds they can stack and hold on "their" refuge the better managers they are. Apparently views are so narrow, that the eminent danger of such practices is overlooked by them and their superiors in Washington.

We contend there is absolutely no reason or circumstance that would remotely justify a program that gambles with the very existence of a national wildlife resource, especially on a federal refuge.

Another alarming problem resulting from the concentrations of geese on these refuges is that they have created an ever growing hunting mecca near them. In fact, on Squaw Creek in Missouri, blue and snow geese there were in such demand that political pressure from local hunting interests prevented the drainage of water from the refuge on schedule this fall.

This kept the geese from mov-

Behind this fence and Federal Refuge sign is a field of winter wheat. The feeding activity of thousands of geese keep the wheat short as illustrated here. Blue and snow geese are especially attracted to the succulent green crops such as rye grass and winter wheat.

This photograph made from the air shows extensive crops that have been planted around Squaw Creek National Waterfowl Refuge to deliberately provide food for short-stopped blue and snow geese.

Above is a photograph made December 2, 1970, showing private shooting areas north of Squaw Creek National Waterfowl Refuge near Mound City, Missouri. This shooting area consisted of flooded corn field stubble.

Observers from Louisiana and Texas took this photograph (opposite page) of crippled blue and snow geese bunched together on a refuge road at Squaw Creek National Waterfowl Refuge in Missouri. It was taken December 2, 1970.

ing on South, and was in direct conflict with agreements reached this past summer between Louisiana, Texas and Bureau of Sport Fisheries and Wildlife representatives. Now it seems that management of the geese on Squaw Creek is based solely on providing hunting opportunity in the immediate vicinity of the refuge.

It's easy to foresee the coming dilemma as large metropolitan areas in the midwest like Kansas City, St. Louis, St. Joe and Omaha supply a rapidly growing number of hunters willing to pay exorbitant prices for hunting, hunting pressure, prices for blinds, expenditures on private waterfowl shooting developments and other economics related to the geese on these refuges have already sky rocketed. The resulting demand to hold more geese for longer periods will also grow.

We are beginning to feel the pressure because of the increased number of blue and snow geese being harvested as a direct result of short-stopping on Sand Lake, Desoto Bend and Squaw Creek. Now there is talk of reduced bag limits and shorter seasons on blue and snow geese which would be felt keenly in Louisiana and neighboring Texas. Blue and snow goose hunting in Texas and Louisiana provides a sporting tradition as old as the states themselves. It now faces a deplorable reduction in quality to be endured by our children.

One of the most disgusting aspects of the short-stopping prob-

lem relates to the excessive crippling losses occurring around these refuges. Shooting out of range has apparently become commonplace among the hunters who crowd the firing lines along refuge boundaries.

Crippling losses are always very high under such hunting conditions and are worsened by the lack of provisions allowing hunters to retrieve birds that fall inside the refuge property. Hunting is often allowed up to the very refuge fences.

At Sand Lake National Waterfowl Refuge in South Dakota the crippling losses were so great that Dr. Glenn Sherwood, a wildlife biologist and former employee at Sand Lake, saw need to author an article concerning the problem. In the Audubon Magazine of November, 1970, he reports that "up to 20,000 blue and snow geese may have been crippled and lost around Sand Lake in 1969."

In spite of two years of persistent and loudly voiced objections by the Louisiana Wild Life and Fisheries Commission and by the Texas Parks and Wild Life Department concerning the dangers of short-stopping programs, it is apparent that the same "do nothing" attitude will prevail. In the meantime, state wildlife administrators in Louisiana and Texas have been urged to "be patient" and "cooperate" through the flyway councils. Well, we have been down that road with Canada geese and the hard lessons learned won't soon be forgotten.

The entire situation that is developing with short-stopping blue and snow geese is especially objectionable since these birds and their future well being, up until now, has been delightfully secure. The some 900,000 blue and snow geese that winter along the Gulf Coast nest in the far reaches of the arctic, largely on Southampton and Baffin Islands. These remote nesting grounds seem to be, even in the distant future, totally safe from disturbances by man. Their traditional wintering habitat that reaches 750 miles from Northeastern Mexico around the Gulf of Mexico to the Pearl River marshes east of New Orleans, is also in excellent condition. These birds have for centuries widely dispersed themselves over these millions of acres and are never likely to be threatened with epidemic disease outbreaks, over shooting, excessive crippling or severe winter losses.

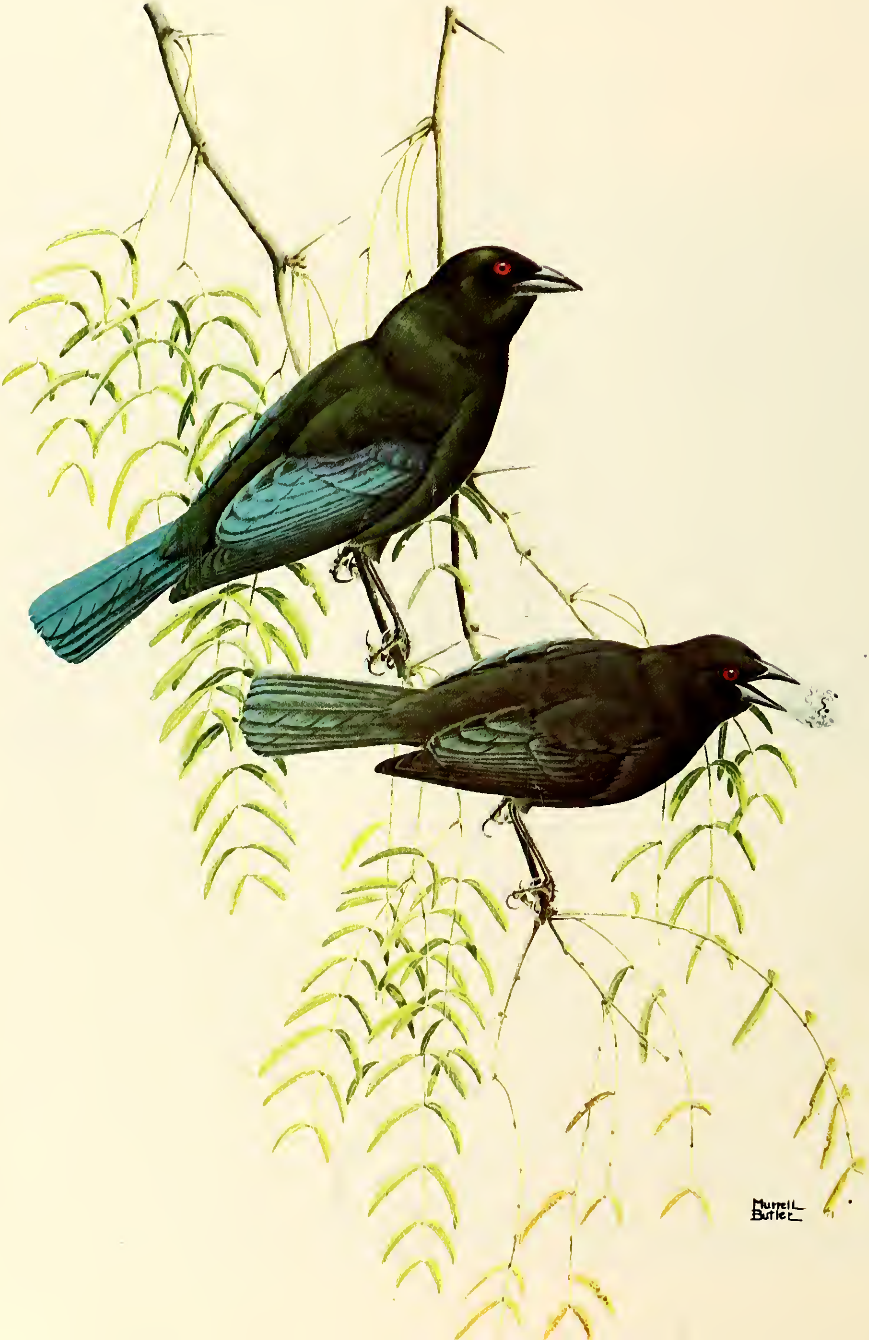
In the final analysis the Bureau of Sport Fisheries and Wildlife and more specifically the federal refuge system must bear the responsibility for creating and perpetuating this unnecessary gamble with the future well-being of blue and snow geese that winter along the Gulf Coast. Hopefully they will exercise whatever control they still have over the problem and prevent what could be one of the most tragic waterfowl management blunders of our time.

FOWL CHOLERA IN WATERFOWL AT SQUAW CREEK NATIONAL WILDLIFE REFUGE, MISSOURI

By
Richard W. Vaught, Missouri Department of Conservation, Columbia
Harold C. McDougle, Department of Veterinary Microbiology, University of Missouri, Columbia
Harold H. Burgess, U. S. Bureau of Sport Fisheries and Wildlife, Squaw Creek National Wildlife Refuge, Mound City, Mo.

This project was supported by Federal Aid to Wildlife Restoration, Surveys and Investigation Projects, Missouri 13-R; by funds from the Department of Veterinary Microbiology, University of Missouri; and by funds from the Bureau of Sport Fisheries and Wildlife, Squaw Creek National Wildlife Refuge.

Abstract: An epizootic of fowl cholera (Pasteurella multocida), in lesser snow geese (Chen h. hyperborea), blue geese (Chen caerulescens), mallards (Anas platyrhynchos), and other waterfowl occurred on Squaw Creek National Wildlife Refuge, Holt County, Missouri, during early January, 1964. More than 1,000 geese died in one night. Symptoms and previous case histories of fowl cholera, an infrequently reported disease among wild waterfowl, are reviewed. Pertinent field observations indicated that mallard ducks were the probable early carriers of the disease. Snow, blue, and small Canada geese (Branta c. hutchinsii) were quite susceptible while large Canada geese (Branta c. interior and maxima) were not involved. Stresses caused by limited open water, overcrowding of birds, and inclement weather may have been conducive to the epizootic. Direct mortality from fowl cholera on wintering areas is not indicative of total mortality. Losses may continue along the migration routes.
Secondary effects may result in loss of productivity.


Murrell Butler

Another Exotic For Louisiana

By Murrell Butler

My first visit to the lower Rio Grande Valley in south Texas and acquaintance with the bronzed cowbird (Tangavius aeneus) was in April of 1962. On March 14, 1964, while banding blackbirds for the Federal Government near Port Allen, Louisiana, I made the exciting discovery of a female bronzed cowbird in one of my banding traps.

I immediately telephoned Dr. George H. Lowery, Jr., Director of the Museum of Natural Science at Louisiana State University. He expressed a desire to see the bird at once. Upon taking the specimen to Dr. Lowery he verified the identification and informed me that while the bronzed cowbird had been sighted on December 31, 1961, by a competent party of observers in Cameron Parish, this was the first time a specimen had actually been secured and therefore, the first valid record for the state.

Few people of Louisiana realize that there are two species of cowbirds within the United States. The brown-headed (Molothrus ater) or buffalo birds as it was called in earlier times because it followed the great herds of bison across the country is the one familiar to most of us. The bronzed cowbird or red-eyed cowbird as it is sometimes called is primarily a Mexican species and is known south of the border as "Tordo ojirojo", Ernest P. Edwards, 1968: FINDING BIRDS IN MEXICO.

It ranges from Mexico south to Panama coming into the United States only in southern Texas and Arizona. Though other species of cowbirds abound in Mexico, the red-eyed is the one familiar to most tourists. It frequents the agricultural land especially around livestock from the border southward.

The male in breeding plumage is a particularly handsome fellow. It differs from the brown-headed in being slightly larger, having a prominent erectile neck ruff, a glowing red eye, an iridescent bronze head neck and breast, with wings and tail glossed with bluish-green. The female is similar in appearance to her mate but duller, being only slightly glossed with green.

The bronzed cowbird is parasitic in its breeding habits as is its northern cousin, the brown-headed, laying its eggs in the nests of other birds. It seems to show a preference for the other Icteridae of its region, principally the orioles. In south Texas the skillfully woven nests of the hooded oriole (Icterus cucullatus) are the ones most frequently selected.

However, the first egg of the red-eye that I found was in a nest of the green jay near Mission, Texas in May, 1963. It is interesting to note that the eggs of the bronzed cowbird are a delicate shade of blue, unmarked, in contrast to the rather heavily speckled eggs of its northern cousin. When ready to lay, the female selects the nest of the intended victim and deposits her egg, frequently removing an egg of the host before depositing her own. The unsuspecting foster parents usually raise the young cowbird without complaints while the carefree parents go on to more important things.

The presence of the bronzed cowbird in Louisiana is considered strictly accidental. However it may well be a more frequent visitor to the state than present records indicate since its habits of flocking with other blackbirds make it difficult to detect. The best chance of seeing one of these birds would be to carefully scrutinize feeding flocks of blackbirds especially those containing brown-headed cowbirds.

Look for a medium sized bird with a distinct neck ruff giving it a humpbacked appearance. The red eye and plumage coloring are notable only at close range. Any bird of doubtful identity should be referred to the Museum of Natural Science at Louisiana State University, for one never knows when he may have a new species for the state.

Nature's most industrious architect is making a lot of Louisiana landowners angry. The chisel-toothed beaver is one of the best construction engineers but he's not winning many awards for his dams, lodges, and dens.

The beaver's dam building is being cussed by Louisianians whose timber, crops, pastures and roads are being flooded, killed and washed out by the protective lakes created to construct beaver lodges or burrowed dens.

From an engineering point of view, the beaver's skills are remarkable. Frequently, man is forced to use dynamite to relieve flooding because of the strength of the beaver dam. Undaunted, the eager beaver will usually consider this a minor set back

eager beavers always give a dam

By Lyn Johnson

and promptly build another.

Some sources say that the largest beaver dam is in Montana, measuring 2,140 feet long, 12 feet high and 15 to 20 feet thick. However, the average beaver dam is about four or five feet high and may extend several feet across a stream or several hundred feet across a pond. Leave it to the beaver to select the most advantageous spot for a dam, into which he can float branches and trees downstream.

Constructions begins with the branches anchored in place with the thick ends pointed upstream, then weighted with mud and rocks. Layers of mud, rocks and branches are piled on the foundation until the water flow is halted. The evenly balanced dam has no weak spots that will break under the tons of pressure created by the enormous volume of water.

Like the dam, the beaver lodge is constructed with mud and logs. Architecturally speaking, the lodge resembles a split-level design, with an underwater entrance to the floor which is built just above the water level with a comfortable bed of soft-shredded bark.

Primarily a stream dweller, the Southern beaver frequently will burrow into the soft bank to make his den. In many instances, farm ponds offer a ready-made water supply and the sharply sloping sides of the levees are ideal for tunneling. Some tunnels go right through the dam causing washouts, damaging the structure and lowering the water level in the pond. Cattle and machinery crossing the beaver burrowed levee often break through into the excavations.

This type of damage does not promote good will with the beaver's landlord and neighbors. More often than not, the beaver finds himself the object of a complaint filed against the extensive damage created by his dams.

The most frequent complaint is that of flooding and killing timber. In many cases, the flooding is not detected on a large acreage until the landowner decides to harvest his timber. On inspection, the landowner finds his hardwood investment wiped out by the bucktoothed beaver, either by flooding or barking and girdling. Many hardwoods are ruined when beavers gnaw away the bark, leaving the exposed wood vulnerable to rot and beetles. Trees most likely to be divested of their bark are loblolly pine, silverbell, sweetgum, ironwood, sweetbay and spruce pine.

Although the death of timber makes up the bulk of complaints, it is by no means the only reason for landowners' ire. Corn fields in creek bottoms are destroyed by beaver when the animal invades the fields from July through October. The entire stalk is severed near the ground and usually moved to the water's edge.

Complaints of road washouts stem from a beaver dam built across narrow outlets such as drainage ditches. Culverts and bridges are placed to permit water runoff so these narrow places are ideal dam sites.

Damage is not restricted to acreage flooded by the beaver dam. A devout vegetarian, the beaver eats about 22 to 33 ounces of twigs and bark a day, interpersing his diet with green corn, sweet potatoes, ornamental shrubbery, acorns and a number of aquatic plants.

Climate is an important factor in determining what the beaver has available for his food supply. In the northern latitudes of the continent, the animal gathers large quanities of green wood, sinking it to the bottom of the pond where it is available when a freeze occurs. The Southern beaver has it much easier. Food is there for the taking all year long. In Louisiana's mild winters, all the beaver has to do is take his fill of bark and small twigs then move on to another tree.

All this gnawing keeps the beaver's teeth from growing too long. Like other rodents, the beaver's teeth continue to grow during the life span. The beaver has four large incisor teeth, two above and two below. The front surface of the teeth is hard enamel which becomes progressively softer material toward the rear. This keeps the cutting edge razor-sharp.

During underwater operations, the beaver is able to close his loose lips behind the chisel-like front teeth to form a watertight seal. His nose and ears are equipped with valves that close when the animal is submerged, which can be up to 15 minutes.

A large and powerful animal, the beaver weighs from 30 to sometimes more than 65 pounds. He measures from three to four feet in length, including his flat tail which is about one third as long as the body and six inches wide. Its tail is not used to carry mud to the dam site but serves as an alarm apparatus. A frightened beaver will smack its tail sharply on the water when it dives, alerting other animals. The tail is the beaver's rudder in the water as he is propelled along by his large, webbed hind feet. The front legs are not as large as the rear ones, but the forepaws are dexterous, making is possible for the beaver to grasp sticks and branches as a squirrel holds nuts.

Scientifically known as *Castor canadensis*, the American beaver usually mates for life. The mating season is early in the year and the kittens are born about four months later. They weigh less than a pound and are born covered with soft fur and with their eyes wide open. The young remain under parental care for more than a year. At two years old, just

before a new family arrives, they get the urge to wander, to find mates and to live independently. Life span of a beaver in the wild averages 10 to 12 years.

At one time, his thick, heavy fur was prized by trappers who made a tidy income on the pelts. During the 1920's and '30's, the beaver was in great demand for coats, hats, collars and various apparel. The number of Louisiana beaver dropped severely to cause the Wild Life and Fisheries Commission to close the trapping season on the beaver.

It was not until 1963 that the beaver trapping season was reopened to keep the booming beaver population under control. But the demand for pelts diminished. Other fur-bearers, such as mink, nutria and muskrat, were easier for the manufacturers to work with than the coarse, thick fur of the beaver. The price of a pelt brought in $5 and hasn't gone up since 1963, although recent statistics show a rise in the number of beaver trapped during a season.

Today, the beaver remains on the trapping season list, a move the commission still hopes will keep the beaver population under control. However, with little demand coming from the fashion centers, trappers rarely fool with the beaver, which poses a population explosion problem and an increase in landowners' complaints about beaver dam damage.

Some states are making the most of a difficult situation. Georgia landowners, for instance, are utilizing beaver ponds as nesting and rearing sites for wood ducks. The Georgia Game and Fish Commission advises sportsmen: "If you are fortunate enough to have beaver swamps on your own land, or know someone who does, you can still save some of Georgia's finest wood duck habitat . . . Eugene Hester, a biologist who has hatched forty-six wood ducklings per acre on his own pond said, 'The beaver is the best friend the wood duck ever had.' "

Pond management plus providing man made nest boxes increases nesting opportunities for wood ducks. North Carolina boasts the hatching of 27 broods from nest boxes in one season from an eight acre pond. With the nest boxes, the theory states that a beaver pond could produce more than 25 young per acre.

With a little more work, the ducks may stay through the hunting season and attract migrants. By temporarily drawing down the beaver ponds, duck food such as Japanese millet can be planted. Drains for the beaver pond range from three logs nailed together at a cost of pennies per acre to a refined, permanent water level regulator costing several hundred dollars. Think of the difference when a man made duck pond costs up to a thousand dollars an acre to build.

Georgia biologists say, "It's cheaper to use nature in developing waterfowl hunting areas. The beaver pond is our best tool in Georgia for the propagation of wood ducks."

Maybe Louisiana can take a tip from a Southern Neighbor, and give some credit to the eager beaver.

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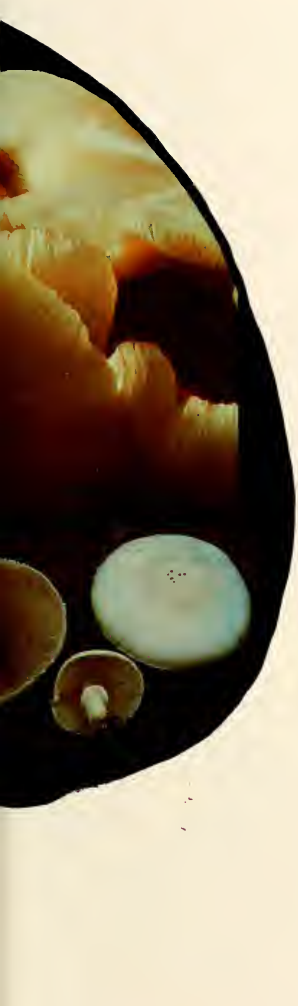

icacies for wildlife

By McFadden Duffy

For countless centuries, mushrooms have been regarded as the most delectable and succulent of foods. They were as common on the luxury-laden tables of the Romans twenty centuries ago as they are in homes and restaurants today. Most people are only vaguely aware and little concerned that the mushrooms bought at the grocery in cans, or sometimes fresh, are only one of the many edible kinds that can be found in the forests and fields.

They look upon all wild mushrooms as toadstools or poisonous mushrooms. In many cases they are missing a bet, as well as good, wholesome food. However, unless identification is positive, stay with the store bought varieties.

Wildlife seemingly is more knowledgeable and wild mushrooms are often an important part of the diet of deer, squirrels, turkeys, quail, and other animals and birds. In winter, when the food needs for all forms of wildlife are most critical, wild mushrooms are particularly important. This is especially true of deer.

Nature has been extremely benevolent in supplying this food for wildlife. There are species of mushrooms that abound in the spring; others are abundant in the summer; some are found only in the fall; and others in the winter. All mushrooms are fungi and although all fungi found in the woods and fields are not considered mushrooms in the accepted sense of the word, they do have nutritive value and help compensate for nutrient deficiencies in natural forage.

Fresh fleshy fungi have an extremely high moisture content. This can average between 75 and 90 percent, so it is apparent that large volumes of this wild food must be consumed to provide adequate protein and phosphorus.

Fungi are particularly abundant in the litter on the forest floor. Some are found only in association with trees such as pines, and with other evergreens. Some seem to be dependent upon a single tree species. A few are parasitic on other mushrooms. Some fungi are especially numerous in soils where organic content is high and a few live mainly on the slash left after logging of hardwoods.

The greatest number of species are usually found where the forest floor is covered with sufficient humus, dead leaves, thick moss, or other debris to hold moisture. Proper humidity with temperature must prevail to induce mushroom growth, even when soil moisture is ample. Commercial mushrooms grow best between 50° and 60° F, but with wild mushrooms there is a wider tolerance.

If showers occur frequently during warm weather, a large number of species can be found fruiting simultaneously in a small area. Because mushrooms lack chlorophyll and receive their food from organic matter, direct sunlight is not necessary for mushroom growth. Fruiting can take place in dense shade provided there is proper moisture and the temperature is correct.

This characteristic has become increasingly important in management of game habitat under dense pine stands grown on short rotations.

Species of mushrooms that live on slash and downed trees should increase for several years following logging. Later the number of mushrooms will increase as the debris breaks down.

Although there is still much research to be done on the importance of wild mushrooms and other fungi as food for wildlife, enough has already been learned to welcome these odd and sometimes beautiful fungi that spring up in the woods and fields.

PINEY WOODS PRINCE

By McFadden Duffy

Quail hunting is still a cherished sport in the deep South and Louisiana is certainly not an exception. There are an estimated 35,000 quail hunters in the state and the annual bag, varying only slightly from year to year, has been pegged at roughly 600,000 birds.

Agricultural practices, particularly clean farming, have cut down greatly the number of quail in Louisiana, as has been the case throughout the South. But the Bob-White is still a prince of upland game birds. Only its domain has changed. Quail have taken to the piney woods.

Peak populations of quail existed in Louisiana back in the days when the countryside was a patchwork of small farms. Those were the days when there were endless thousands of sharecroppers' small-acreage farms studded with weathered small homes where wood smoke drifted up lazily from the chimneys.

There were untold miles of hedgerows and brier patches where quail found both the food and cover necessary to produce abundant coveys. Then times began to change along with the terrain. The small sharecropper farms began to disappear. Large land clearing equipment moved in and the hedgerows and brier patches disappeared.

Where formerly there was a cluster of perhaps thirty small farms, suddenly there was one large farm completely devoid of any cover that could harbor quail.

This change in the countryside did not happen overnight. It was a gradual change, but it was persistent and relentless. Clean farming was the order of the day and Bob-White was in trouble. Quail populations began to decline. Areas that once were productive offered poor hunting, or none at all.

During the past ten years hunters have been finding their birds in what might best be called piney woods areas. A good longleaf pine seed (mast) crop will entice some coveys out to stands of mature trees for excellent early season hunting. In the loblolly-short leaf pine-hardwood timber type, hunters should check the thickets.

Maturing timber after a few harvest thinnings has a

way of coming back into quail production. On lumbering company lands or other pine forested areas open to public hunting, look for last year's burned over areas. These spots should be productive throughout the season. There's no doubt that piney woods now provide the best quail shooting in Louisiana.

Because of pine reforestation and periodic harvesting of pine forests it appears that the quail population will remain about static. There should always be some quail hunting and the Bob-White has been preserved as a game bird, to be cherished by those hunters who find quail hunting about tops in outdoor sport.

Those who have never hunted quail might wonder what it is about those small game birds that hardly add up to more than a few ounces of flesh and feathers that can make them dear to a rather large clan of hunters, slightly over 35,000 of them.

While small as game birds go, quail are delicious on the table and highly regarded; but feasting on quail is just a by-product of a much more important sport.

It is quail hunting that brings about the magnificent team work between highly trained dogs and the hunters who own them. The nature of quail to gather in coveys also makes the traditional way of hunting them possible.

Pointing breeds of dogs are used and some are trained to hunt close to the gun, particularly for hunters who walk behind their dogs when hunting quail. Others are allowed to range wide.

Such dogs are followed by hunters on horseback, or in a four-wheel-drive vehicle.

A great part of the sport is watching the dogs as they run about casting for scent. They'll pause at intervals and lift their heads, nosing the breeze for telltale bird scent. It is when they find birds that the supreme moment comes. The dog will go pussyfooting forward and suddenly it will freeze, tail erect, one foot cocked, muscles quivering.

Other quail dogs aren't worth their salt if they do not "honor" the point of the dog that has located quail. They also freeze on point. This is probably one of the finest sights to behold in quail hunting—a second or perhaps two bird dogs honoring the find of another, often when they do not have any trace of quail scent themselves.

With the covey nailed down tightly hunters move in abreast to flush the birds. When quail come whirring up, flying in every direction; even the most seasoned hunters find their pulses pounding. Following the momentary explosion of birds, each hunter selects a bird to shoot, then tries for a double.

The dogs, steady to wing and shot, move out on command and retrieve the birds that have been bagged. If the covey was a large one, the hunters will search out some of the scattered singles. There's an unwritten law among quail hunters. They will never overgun a covey. After a few singles have been collected, they will move on in search of another covey.

Quail hunting is one of the few types of hunting that hasn't changed a bit with the passing of the years, unless it is present use of jeeps and similar vehicles in following the dogs. There is still the good companionship of a fellow hunter on a brisk day afield, and the sight of ranging dogs casting for scent by the thickets and briar patches.

Yes, Louisiana quail may have been dispossessed with the passing of the sharecropper's farms and the introduction of clean farming; but it seems that they have found a satisfactory niche in the piney woods tracts. With timber management what it is today, there will be some fine quail hunting for years to come.

POMPANO PLATFORMS

Photography and Story by Paul Kalman

Some people say they appear to be plated with sterling silver. Others claim they look like pure gold.

Whatever precious metal they resemble, the pompano is one of the gamest and unquestionably the best eating of all fish taken from Louisiana waters.

Averaging between 2-1/2 and five pounds, pompano are regular visitors to our shores, showing up beneath the offshore oil structures in early fall and remaining there through the bitterest months of the winter.

Not too many years ago, it was cause for celebration when an angler pulled a single pompano from Louisiana waters. But on Thanksgiving day of 1947, an event took place to revolutionize offshore fishing in the Gulf of Mexico. In a precedent-setting venture, Humble Oil and Refining Company started construction on the Pelican State's first offshore oil drilling platform.

Before the "rig" had even begun to produce oil, some charter boat skippers operating from Grand Isle started running out five miles from shore to watch the "roughnecks" at work. As an experiment, they dropped lines overboard and saw their efforts rewarded with unbelievable catches of bluefish, Spanish mackeral, red snappers . . . and the lordly pompano. Natives who lived on Grand Isle for a lifetime could not believe their eyes as the boats came in with bushel baskets overflowing with the delectable fish.

With additional drilling platforms sprouting up in the Gulf, the whole Louisiana coastline from Chandeleur Island to the Texas border suddenly became one of the world's finest offshore fishing areas. And because of their unsurpassed quality as table fish, pompano soared straight to the top of the fishing popularity poll.

Pompano fishing is a big gamble, at best, because the fish are at their peak during the coldest months when Louisiana's weather is vague and unpredictable. Violent nor'westers blow in with alarming frequency, turning the Gulf into a maelstrom. After the

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passage of a cold front, there will be two or three days of calm. This would be ideal for fishing were it not for the fact that when the weather turns warm, the Gulf becomes blanketed with fog so thick that you cannot see the oil rigs. The trick is to ride herd on the weather forecasters and put together a pompano trip when they say the wind will be from the proper direction with very little velocity and no fog.

The pompano has striking physical conformations. His body is extremely broad across the center and relatively thick. In color, the fish is deep marine blue along the top of the back, blending into a brilliant silvery gold on the sides. The dorsal fin is bluish, while the anal and caudal fins are dark, edged in yellow.

Light casting or spinning tackle is ideal gear for pompano, with lines of 10-pound test being the maximum recommended. If the water is clear, you will catch more fish by tying your monofilament line directly to the lure which, in most cases, should be a small weighted nylon jig or a pair of jigs rigged in tandem. White and yellow are the most effective colors. A tiny pinch of shrimp, scarcely big enough to cover the point of the hook, makes the lure even more attractive.

The most successful pompano anglers anchor or tie their boats close enough to the rigs so they can cast directly beneath the gigantic steel legs which support the platforms above the water.

Casting in the direction from which the tide is flowing, they allow their lures to sink anywhere from 15 to 50 feet beneath the surface, simultaneously reeling in the slack just fast enough to keep sufficient tension so they can feel a fish taking the bait. Pompano are dainty feeders, rivaling the sheepshead in ability to steal the bait before you know what's happening. The trick is to feel the pompano's tender tugs as he mouths the lure, and move it away from him ever so slightly so he dashes in and grabs it. This is the time to sink the hook . . . and hang on. Only the jack crevalle, a notably tough opponent and close relative, rivals the pompano in pound-for-pound fighting ability.

It is well to mentally record the depth at which you catch the first pompano because you will usually find his companions close by. As noted previously, there is wide variance in the depth at which pompano feed and water temperatures, current conditions and clarity are all contributing factors. Contrary to popular opinion, you will catch more pompano in cloudy water than clear. On days when the sun shines brightly and the water is exceedingly clear, you can often look down and see thousands of pompano swimming directly under the boat, stubbornly refusing to bite.

Pompano anglers are notoriously secretive about where they catch fish, and with good reason. If certain platforms are pin-pointed as "hot" locations, it is almost a certainty that dozens of boats will be around them the following morning. Under such conditions, it is not unusual for arguments and near-fights to ensue over who will tie up where. The best advice if you locate pompano is to keep very quiet about it.

Although almost any of the several thousand offshore platforms may conceivably harbor schools of pompano, the best and biggest catches are made from the rigs near Empire, in East Bay at the mouth of the Mississippi River, and under the platforms located in Breton Sound.

Bluefish and mackerel often make life miserable for the pompano angler, forcing him to use leader wire to keep from losing all his lures. Such leaders should be made from plastic coated cable of not more than 20 pounds breaking strength. One end of the leader is wrapped directly to the lure by twisting it with pliers and passing the twist over a candle flame. This melts the plastic into a permanent bond. If you use a swivel to attach the leader to the line, be sure to buy the smallest ones you can find, preferably painted black. Silver or brass swivels —even the tiny ones—are tremendously attractive to mackerel and bluefish which go out of their way to strike them.

Pompano command a princely price and "sport fishermen" have earned handsome bonuses by selling their excess pompano to the fish markets and the famous French restaurants in New Orleans' Vieux Carre. Anyone who follows this practice should be cautioned that it is illegal to sell pompano (or any kind of fish) without having a commercial fishing license in your possession. Such licenses are available from the Louisiana Wild Life and Fisheries Commission.

As with most offshore game fish, pompano are in little danger of being fished out so long as the anglers stick to rod and reel. In recent years, commercial fishermen have come over from Florida and netted pompano around the rigs in unbelievable numbers. After they departed, no pompano remained around these rigs.

Generally speaking, pompano have not been nearly as abundant during the past two or three years as they once were. It is impossible to say whether they grew tired of living beneath the rigs or if they have, indeed, been overfished.

Many species of salt water fish are cyclic, being abundant for several years, becoming scarce a few years later, and finally returning to abundance without any rhyme or reason.

With pompano, only time can tell.

by Bob Dennie

Rabbit hunting provides untold hours of pleasure for thousands of hunters in Louisiana every year. These elusive creatures have all the traits that it takes to create a great day in the field for the hunter. They can be as fast as the proverbial "Speedy Gonzales" or as stoic as the sphinx or an Egyptian pryamid, if the situation calls for it.

I don't really know if the fox deserves the full title of being the craftiest creature in the woods, because I have seen and heard tell of some rabbit and dog chases that have left the members of the canine family barking to themselves.

According to the most recent figures rabbit hunting in our state is second only to squirrels in the small game category and I can understand that fairly easily. Most squirrel hunters "still hunt" or sit under a tree, whichever term you choose, and need own only a gun and a box of shotgun shells. While the rabbit hunter, or at least the more successful ones must be in a position to own good hunting dogs or have hunting companions that do.

Recent surveys show that 120,000 hunters were successful enough to kill over two million rabbits in Louisiana.

There are two types of rabbits that make their home in the Pelican state; the cottontail and the swamp. Habitat and size are the basic difference between these two kissing cousins, although their methods of eluding the hunter and his dogs also vary.

I would venture a guess that there are more cottontail in the state than swamp rabbits (sometimes called swamper, cane-cutter or marsh rabbit) due to their wider range. Cottontails are the smaller of the two weighing about two pounds when fully

grown. On a national level there are over 20,000,000 cottontails killed by man in the United States every year which should give us some idea of the total population of these prolific creatures.

Rabbits will eat nearly everything that grows in the soil but have a partiality towards grass. There was a recent study made where two cottontails were under constant observation and were seen to have eaten 42 percent of their total weight in grass every day!!!

But this nose twitching symbol of Easter does not owe his fame to his eating habits. Probably he is best remembered for his fantastic ability as a breeder which is the reason he has been able to survive the annual pressures of hunting and his natural enemies which is anything from snakes to hawks. Anything that you can recall as a meat eater is a prime enemy of the rabbit.

They are able to breed at the age of six months and will have on the average of four or five broods a year. The heaviest period for breeding is between February 1 and September 1. Gestation period is about 28 days and shortly after mating the female will quickly turn on her mate and drive him away as well as all others from her chosen territory. Broods will usually consist of from one to eight offspring. It is not uncommon for the female to have chosen a new mate on the day that the young ones are born

With these thoughts in mind it might be interesting to relate what natural scientist Victor H. Cahalane wrote along these lines:

"By simple mathematics, the world should have been knee-deep in rabbits a long time ago. If each adult female produced four litters a year, each containing five young, there would be twenty-two rabbits at the end of the season. As this population is divided between males and females, the next year should see an increase of two hundred and forty-two. If all survived, the number in five years would be more than three hundred and twenty-two thousand for each original pair."

However, nature in her own way takes care of this problem with the toll taken by man, predators, disease, weather and average life span of only one year as well as the fact that only 50 percent survive in a given year.

Although food is a vital need for the well being of the rabbit population, cover is a must for their survival. Several types of cover are necessary; basically they are resting, nesting and escape cover.

Cottontails prefer dry cultivated areas but can usually be found almost anywhere except in deep woods of big forrested areas and in the swamps. Mechanization has done more harm to the densities of the cottontail than to the swamper. Improved farming methods that leaves little or no cover in the fields or the more efficient pastures that

Bunnies & Beagles

usually provide a good deal of food but no cover in which he can hide.

However such is not the case with the larger swamp rabbit. They are to be found in the large wooded areas of the state and are more numerous along the many streams in giant bottomland hardwood regions. His nicknames are very fitting as he is very abundant in the marshlands and sugarcane regions. They will thrive on low lying areas that remain wet almost all year long.

Louisiana's marshlands are made to order for him. Also the use of mechanized equipment has been rather beneficial in his case. Timber harvests almost always improve his life. Range conditions improve with logging operations as it provides excellent cover in the form of brush piles and fallen tree tops as well as leaving many openings. These openings soon sprout up with edible vegetation and blackberry thickets which provide cover as well as food.

Good dogs are essential to successful hunting although there are quite a few hunters who say they prefer to walk them up. This can be quite a lot of fun and excitement if there is an ample supply of rabbits and you are a pretty fair and fast shot. You have to be ready to fire on a moment's notice as he is not likely to make any announcements, formal or informal, about his scheduled departure. Most people make the mistake of walking too fast. Move rather slowly and stop quite often for a few minutes. Besides being a lot more leisurely this is much more successful.

Quite often Mr. Rabbit will remain quite still (this is one area that he excells in) if someone approaches and departs in the same fashion; rapidly. But when something or someone ap-

proaches slowly and remains within his sight he will usually get rather nervous as if he has been detected. This biological flaw of nervousness will usually cause him to make his move which usually proves to be fatal. So take it slow and easy and check out those brush piles and briar patches.

Beagle hounds are the alltime favorites for the serious hunter and a good dog can earn his keep in short order. They are relatively easy to train and inexpensive to keep. Their noses are excellent for this type of work but most of all they have the speed and size to get the job done.

Winter's first good frost will usually herald the actual hunting season on the bunnies although it may have been officially open long before the chilling northerly wind and low temperatures have made themselves evident. Veteran hunters soon learn that this first real sign of winter will not only make taking to the woods a great deal more comfortable on man and dog but also will kill most of the thick underbrush that makes hunting so difficult for the beagles and so sweet for Brer Rabbit.

Beagles because of their speed and size will keep the rabbit moving at just the right pace and go just about anywhere he can. The small cottontail is the more elusive to chase. Following no set pattern he will use his speed and size very effectively slipping through small openings making life hard on the yelping beagles hot in pursuit. When he feels he has a fairly comfortable distance between himself and the dogs he will usually pause for a few moments.

Often the novice hunter hears the yelping volume of the running dogs increase as they approach him then they will pass near him and he will never see the rabbit that is the object of these dogs affection. Events such as this have often made life miserable for the dogs and as the hunter then believes that man's best friend has lied to him and that there wasn't any rabbit to start or it was an old trail. Not true . . . what has probably happened is that the rabbit sensing the lead he had on the dog just slowly sneaked past the unprepared hunter while he was looking for a rabbit to come bounding by.

Be prepared as soon as you enter the woods and doubly cautious as soon as the dogs strike the trail. When the music of the hounds begins be sure that you have a good seat from which to view the ensuing performance or you will feel like the man who came late to the burlesque show and had to sit in the last row; the only way he knew there was a show going on was because he could hear the orchestra; . . . he was too far away to see the show.

When the swamper is set into motion by dogs he will usually follow a line or a circular pattern. Due to his size it is usually harder for him to elude the pursuit of the dogs. Consequently he will run a lot further then his counterpart and also return to the area from which he was jumped. So when you jump a swamper just hold tight, for the odds are that he will return.

Tree stumps, brush piles are often great places to watch from; the little bit of added altitude can make the difference.

Ejecting rabbits from the safety of a briar patch or brush pile takes some doing and this is where a beagle can shine. To those of us who can remember the stories of Brer Rabbit and have hunted some, you can well appreciate why he referred to the briar patch as his "laughing place."

Another interesting technique that you might want to try is whistling at bounding bunnies and I don't mean the kind that Hugh Hefner named his night clubs after. Quite often the shrill sound of someone whistling will stop a rabbit in his tracks and give you an easier target. My problem is that I can never whistle on cue. I have two choices to solve this dilemna. I can learn to shoot faster or borrow a whistle from the policeman at the corner when he finishes work. But with my luck I probably would try it on a deaf rabbit.

Residents of the "Sportsman's Paradise" are indeed fortunate in light of the very long season afforded them; this year the season extends from October 3, 1970 until February 28, 1971, and on top of that a liberal bag limit of eight and possession limit of 16.

GREEN WINGED TEAL

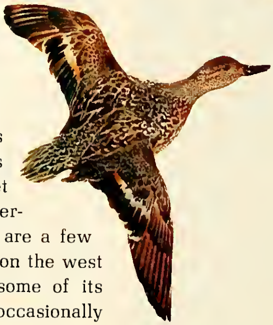
By Charles R. Shaw

Teal are the smallest of the ducks taken regularly by the sportsmen of our state and the Green-winged Teal is the smallest of these. The name refers to the iridescent green speculum on the back edge of the dark wing. It can be readily distinguished from the Blue-winged and Cinnamon Teal since the latter have large light blue patches on the front of the wing.

The adult male in breeding plumage is considered by some to be the most beautiful duck occurring in Louisiana, with the exception, of course, of the drake Wood Duck. In addition to the green patch on the trailing edge of the wing, the Green-wing drake has a green patch on each side of his chestnut brown head and this extends from in front of the eye to the nape of the neck. There is also a crest although this is not quite as conspicuous as that of the Hooded Merganser or the Wood Duck. One of the other identification marks is a vertical white bar in front of the shoulder.

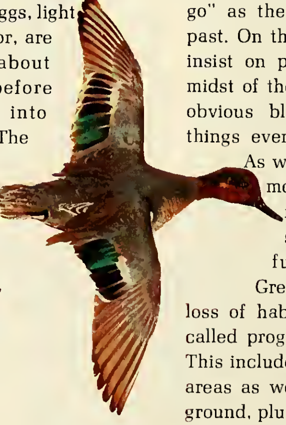
The small brownish speckled female also has the iridescent green speculum shining on the dark wing.

Teal generally have enjoyed an excellent reputation as superior table ducks and the Green-wing is no exception. In spite of its small size this superior eating quality may have contributed in the past to its depletion by market hunters and others. While this excellence as a gourmet food item is almost universally recognized, there are a few dissenters, particularly on the west coast, who aver that some of its feeding habits may occasionally make some of these birds virtually inedible. Instances are cited of flocks feeding on dead salmon and associated maggots on western rivers which created a noticeable stench in these birds.



The little ducks generally leave the state fairly early and head for their breeding grounds in the northern states and Canada and even Alaska.

The nest sites are located along the edges of lakes and sloughs although they may sometimes be a considerable distance from the water. The nests are well concealed in the long grass and vegetation and are made of grass and other vegetative material available and lined with a layer of down plucked from the female's breast. The eight to twelve eggs, light olive-buff in color, are incubated for about three weeks, before they hatch into downey young. The little ducklings are brownish in color, darker on the back and with a dark stripe on the sides of the head.



The food of the Green-winged Teal at this time consists of seeds of various types of aquatic vegetation such as smartweed, sedges and grasses, etc. and is supplemented with great numbers of insects and such other small aquatic life as is available. The young ducklings, of course, are very active and quickly learn to fend for themselves in feeding although remaining with the parents for protection.

Green-winged Teal winter in large numbers in the marshes of southern Louisiana although many of these birds do go on further south. They are considered among the swiftest of our ducks and when buzzing the grass tops ahead of a brisk north wind can discourage a duck hunter who may not have time to say "here they come—there they go" as the little speedsters flash past. On the other hand, they may insist on plopping down into the midst of the decoys in spite of the obvious blind so perhaps these things even out over the season.

As with other waterfowl and most of our wildlife, it is not the hunter who presents a danger to the future welfare of the Green-winged Teal, but the loss of habitat entailed in the so called progress of our civilization. This includes drainage of breeding areas as well as loss of wintering ground, plus pollution which makes some of the remaining habitat unfit. These problems must be solved by man rather than the useless expedient of shutting off shooting, if our birds are to continue in abundance.

A basket of blue fish. Blues are most abundant around the offshore petroleum structures during the winter and early spring months. They are savage fighters and provide keen sport on light tackle.